

Nguyen, A. T., Jet Propulsion Lab / California Institute of Technology, Pasadena, USA, [atn@jpl.nasa.gov](mailto:atn@jpl.nasa.gov)

Kwok, R. ., Jet Propulsion Lab / California Institute of Technology, Pasadena, USA, [ron.kwok@jpl.nasa.gov](mailto:ron.kwok@jpl.nasa.gov)

Menemenlis, D. ., Jet Propulsion Lab / California Institute of Technology, Pasadena, USA, [menemenlis@jpl.nasa.gov](mailto:menemenlis@jpl.nasa.gov)

### **ASSESSMENT OF THE ECCO2 COUPLED OCEAN AND SEA ICE SOLUTION IN THE ARCTIC**

One of the primary objectives of the Estimating the Circulation and Climate of the Ocean, Phase II (ECCO2) project is to realistically estimate the Arctic ocean circulation and sea ice distribution during the ocean satellite era (1978-present). ECCO2 state estimates are obtained by fitting a high-resolution (18-km horizontal grid spacing) global-ocean and sea-ice configuration of the Massachusetts Institute of Technology general circulation model (MITgcm) to the available ocean and sea ice data. Towards ECCO2 Release Candidate 1 (RC1), an optimized solution has been obtained by (i) computing 70 forward-model sensitivity experiments and (ii) using a Green's function approach to minimize model/data misfits. Here we present a comprehensive assessment of ECCO2 RC1 in the Arctic Ocean using satellite and in-situ measurements of sea ice, freshwater fluxes, and temperature and salinity profiles. In addition, we assess ECCO2 RC1's ability to reproduce and to maintain important water mass properties, e.g., the Arctic halocline and the warm Atlantic layer. The purpose of this assessment is both to evaluate ECCO2 RC1 as well as to suggest improvements for the representation of the Arctic Ocean in future ECCO2 solutions.

Poster presentation

Presentation is given by student: No

Session #:036

Date: 03-05-2008

Time: 17:30 - 19:30

[Back](#)